

L Number	Hits	Search Text	DB	Time stamp
2	107	photodielectric photo-dielectric photo adj dielectric	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 10:44
3	238948	photosensitive photo-sensitive photo adj sensitive	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 10:45
4	352	photoimagable photo-imagable photo adj imagable	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 10:45
5	86	photoformable photo-formable photo adj formable	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 10:45
6	235	photopatternable photo-patternable photo adj patternable	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 10:46
7	63748	pin adj hole pinhole pin-hole	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 10:47
8	1294	((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 10:47
9	1379	(photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 10:47
10	73	((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 10:48
11	85	((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 10:49

1	139	BHATT-ASHWINKUMAR-C-.in. BHATT-ASHWINKUMAR-CHINUPRASAD-.in. BHATT-A-C-.in. CAMP-JOHN-.in. CAMP-JOHN-C-.in. CAMP-JOHN-CHRISTOPHER-.in. CAMP-J-C-.in. FLETCHER-MARY-BETH-.in. FLETCHER-M-B-.in. POTTER-KENNETH-L-.in. POTTER-K-L-.in. WELSH-JOHN-A-.in. WELSH-JOHN-.in. WELSH-JOHN-ANDREW-.in. WELSH-J-A-.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 10:53
12	44	((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!)) and (((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 10:53
13	6	((((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!)) and (((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!))) and (pin adj hole pinhole pin-hole)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 10:56
14	36	((((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!)) and (((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!))) and (opening hole defect perforation)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 11:02

16	5	((((photodielectric photo-dielectric photo adj dielectric) ((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!)) (((photodielectric photo-dielectric photo adj dielectric) ((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!)) and ((pin adj hole pinhole pin-hole))) NOT ((((photodielectric photo-dielectric photo adj dielectric) ((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!)) and (((photodielectric photo-dielectric photo adj dielectric) ((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!)) and (pin adj hole pinhole pin-hole)) (((photodielectric photo-dielectric photo adj dielectric) ((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!)) and (((photodielectric photo-dielectric photo adj dielectric) ((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!)) and (opening hole defect perforation)))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 11:04
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17	43	<p> ((((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!)) (((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!))) and (opening hole defect perforation)) NOT </p> <p> ((((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!)) and (((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!))) and (pin adj hole pinhole pin-hole)) (((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!)) and (((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!))) and (opening hole defect perforation)) (((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!)) (((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!)) (((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!))) and ((pin adj hole pinhole pin-hole))) NOT </p>	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 11:11
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23	9	((photodielectric photo-dielectric photo adj dielectric) ((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) with (two! double! bilayer\$2 bi-layer\$2 bi adj layer\$2)) and ((pin adj hole pinhole pin-hole) defect perforation)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 11:15
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22	39	<p>(((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric))) same ((pin adj hole pinhole pin-hole) defect perforation)) NOT (((((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!)) and (((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!))) and (pin adj hole pinhole pin-hole)) (((((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!)) and (((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!))) and (opening hole defect perforation)) (((((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!)) (((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!))) and ((pin adj hole pinhole pin-hole))) NOT (((((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!)) and (((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (second! or top! or upper!))) and (opening hole defect perforation)) (((((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) near3 (first! or bottom! or lower!))) and ((pin adj hole pinhole pin-hole))) NOT</p>	<p>USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB</p>	2002/07/11 11:16
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25	2	((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) with (two! double! bilayer\$2 bi-layer\$2 bi adj layer\$2)) SAME (pin adj hole pinhole pin-hole)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 11:22
19	56	((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) with (two! double! bilayer\$2 bi-layer\$2 bi adj layer\$2)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 11:20
26	19	((photodielectric photo-dielectric photo adj dielectric) (((photosensitive photo-sensitive photo adj sensitive) (photoimagable photo-imagable photo adj imagable) (photoformable photo-formable photo adj formable) (photopatternable photo-patternable photo adj patternable)) near3 dielectric)) SAME (pin adj hole pinhole pin-hole)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/07/11 11:24
27	1	("5354593").PN.	USPAT; US-PGPUB	2002/07/11 11:24

:VALID *TDB-ACC-NO: NA9402433

DISCLOSURE TITLE: Double Exposure of Photo-Sensitive
Insulator for Pin-Hole
Elimination

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February 1994, US

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DISCLOSURE TEXT:

Disclosed is an exposure method for reducing defects of
PCB

(Printed Circuit Board) with photo via holes formed by
a

negative-type photo-sensitive dielectric. For negative
type

photo-sensitive dielectric, contamination at exposed
regions causes

defects such as pin-holes. Such defects can be solved
by double

exposure with different masks.

- In a photo process in which a negative-type
photo-sensitive

insulator is used to define vias, contamination on the
mask, mask

cover film or other parts which lie in the light path
results in the

formation of pin-holes in the insulator. These
pin-holes become

serious defects from the point of reliability and
electrical

performance.

- The defects caused by such contamination can be

eliminated by
double exposure which comprises a first step for
exposing the
insulator with a normal mask with original via size and
a second step
for exposing the insulator with the mask with larger
via size. The
order of these two masks being used can be reversed.
- The probability that different contaminations
hit the same
location is negligible and thus the pin-holes can be
eliminated
effectively by exposing the insulator twice with the
different masks.
- The reason why the two masks should have
different via sizes is
from the tolerance of mask positioning. The second
mask has to have
larger via size to maintain the via size formed by the
first mask.
- This method is applicable for any negative
photo-sensitive
polymers, for example, etching resist, pattern plating
resist and so
on.

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